

COASTAL CONSERVANCY

Staff Recommendation

June 29, 2006

**BUENA VISTA LAGOON STATE ECOLOGICAL RESERVE
PHASE II RESTORATION PLANNING**

File No. 06-041

Project Manager: Deborah Ruddock

RECOMMENDED ACTION: Authorization to disburse up to \$500,000 for Phase II Buena Vista Lagoon restoration planning, including preparation of environmental documents and related preliminary engineering design.

LOCATION: Cities of Carlsbad and Oceanside in northern San Diego County (Exhibit 1).

PROGRAM CATEGORY: Resource Enhancement.

EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: Feasibility Study Executive Summary

Exhibit 3: Existing Conditions Map

Exhibit 4: Support Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following Resolution pursuant to Sections 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed five hundred thousand dollars (\$500,000) for Phase II Buena Vista Lagoon restoration planning, including preparation of environmental documents and related preliminary engineering design.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with Chapter 6 of Division 21 of the Public Resources Code Sections 31251-31270.

2. The proposed project is consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.

PROJECT SUMMARY:

Staff recommends the Conservancy authorize disbursement of up to \$500,000 for preparation of environmental documents and related preliminary engineering design for phase II restoration planning for Buena Vista Lagoon, in the cities of Carlsbad and Oceanside in northern San Diego County. Buena Vista Lagoon was designated a State Ecological Reserve more than 40 years ago and is currently managed by the California Department of Fish and Game (“Department”).

Conservancy assistance will provide opportunities for data sharing, cooperative design and funding for the project, and will enable the Department to better coordinate lagoon restoration with planned California Department of Transportation (Caltrans) and North County Transit District (NCTD) highway and rail bridge improvements. The bridges currently constrain lagoon water circulation. Conservancy assistance also will improve the Buena Vista Lagoon project’s likelihood of receiving Federal wetland restoration grants to assure completion of the work.

Unique among the county’s six coastal lagoons, Buena Vista Lagoon currently has no tidal flushing due to its present elevation and configuration. The presence of a weir at the mouth of the lagoon, combined with increasing sediment and nutrient loading has reduced the depth and circulation of the lagoon, accelerating the growth of cattail, bulrush, and algal growth, and leading to the decline of biodiversity and increased vector problems.

The Southern California Wetland Recovery Project (WRP) work plan and the Carlsbad Watershed Management Plan identify lagoon restoration as a top priority. Since Buena Vista Lagoon restoration was added to the WRP’s 2000-20001 work plan, several projects have been undertaken with Conservancy assistance focused on assessing the feasibility of restoring function and habitat values by modifying the lagoon’s hydrology. Phase I restoration planning projects included the Buena Vista Lagoon Restoration Feasibility Study (2004, Exhibit 2), which concluded that each of three alternative hydrologic regimes evaluated were technically feasible – restoration of an ocean connection, an improved freshwater system, or creation of a hybrid freshwater-saltwater system. The study is considered by the public, the participating city, state and federal agencies to be an adequate and appropriate basis for moving into preliminary engineering design and environmental analysis. Supplemental technical studies seeking more detailed data about lagoon sediment quality, depth and distribution and land ownership were conducted in 2005, and a regional habitat analysis was completed in March 2006 (see “Project History” section).

Because of budget and staffing constraints, the Department requests Conservancy assistance with the next phase of the restoration project (See Department letter, Exhibit 4). Phase II environmental planning will involve assessment of environmental impacts of alternative hydrologic regimes pursuant to the California Environmental Quality Act and the federal National Environmental Policy Act (NEPA). Preliminary engineering design, involving development, operation and calibration of complex computer models, will be performed to refine project alternatives, predict project performance and impacts, identify mitigation and facilitate future permitting of a final restoration project.

Conservancy staff will manage the project in partnership with the Department. Prior to hiring a consultant team and disbursing funds for the project, the Conservancy will enter into a coopera-

tive agreement with the Department identifying respective roles and responsibilities. Staff anticipates phase II restoration planning will take place during the period 2006 to 2008, followed by construction of a final project targeted for completion in 2011.

Total phase II project cost is estimated to be approximately \$2.3 million. Of this amount, staff estimates a preliminary engineering design budget of approximately \$1.3 million and an environmental planning budget of approximately \$1 million. Staff estimates are based on planning and design expenditures obtained for other major coastal wetland restoration projects, including Batiquitos and San Dieguito lagoons in northern San Diego County and the Bolsa Chica wetlands in neighboring Orange County. At the time a more detailed phase II project budget becomes available, the Department and Conservancy staff will seek additional funding in the form of cash and in-kind contributions and grants from federal, state and local agencies, including the National Fish and Wildlife Service (USFWS), Caltrans, and the cities of Carlsbad and Oceanside (See "Project Financing" section).

Letters supporting the project have been received from Senator Bill Morrow, Assemblywoman Mimi Walters, the U. S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game, the San Diego Regional Water Quality Control Board, the City of Carlsbad, and the Buena Vista Lagoon Foundation (Exhibit 4).

Site Description: Buena Vista Lagoon lies astride the border of the cities of Oceanside and Carlsbad, encompassing approximately 200 acres (Exhibit 3). The lagoon's 20-square-mile watershed stretches inland to include the Cities of Oceanside, Carlsbad, and Vista. Buena Vista Creek is the main tributary stream.

The elongated lagoon formed as a drowned river valley since the last ice age. A weir originally installed in the ocean outlet in the 1940s regulates the lagoon's water level. The average water depth is about three feet in the west and central portions of the lagoon, and 1.5 feet in the eastern basin. The bottom consists of a saturated soft mud layer averaging 3.5 feet in thickness, resting atop a more resistive floor of sand, silts, and clays.

The lagoon supports several different vegetation communities. The open water area (120+ acres) supports Widgeon grass, pondweed species, and arrow grass. The lagoon edges are dominated by narrow and broad-leaf cattails, spiny rush, and bulrush. About 14 acres are un-vegetated seasonal sand/mud flats. An equal area between the uplands and the reeds supports pickleweed, marsh rosemary, and alkali weed. Cattails and bulrush are a conspicuous plant community that presently occupies approximately 45 acres of the lagoon.

The historic acreage of the lagoon has been estimated at over 650 acres. Tidal influence probably occurred periodically when winter floods breached a naturally forming barrier beach at the lagoon mouth. Urban development has dramatically affected the lagoon system. Over time, railroad and road crossings—the Santa Fe Railroad trestle, the Coast Highway/Carlsbad Boulevard crossing, Interstate 5 crossing, and the Jefferson Street crossing—have divided the lagoon into four basins. As a result of the constrictions in flow between them, these basins exhibit varying salinity regimes and sedimentation rates. Additional impacts to the lagoon were created by construction of Highway 78 along the north shore, and extensive urban development adjacent to the lagoon and within its watershed within all three cities. The construction of the St. Malo residential development along the beachfront significantly modified the nature of the lagoon's outlet to the sea. Historically, when a beach berm formed at the lagoon's outlet, water backed up by the

berm and threatened to flood the subdivision's homes. The berm would then be artificially breached. Local residents also desired an open water surface, and over time built a series of structures to maintain a minimum water level in the lagoon. The existing concrete weir and reinforced channel were constructed in 1972, and there has not been any low-elevation outflow since.

Despite fluctuations in the lagoon's hydrology, it still supports a wide diversity of wildlife. Migratory shorebirds and waterfowl, including brown pelicans, least terns, Belding's savannah sparrows, Caspian terns, herons, egrets, and cormorants use the lagoon, feeding on the small fish its waters support. Continuing deterioration of the lagoon could destroy these resources.

Project History: The problem of accelerated sedimentation of Buena Vista Lagoon became evident as early as the 1970s. In 1982, the Coastal Conservancy began a sediment control program in the watershed. The products of this effort included a review of sediment sources, a preliminary plan for sediment control measures, development of a model erosion control ordinance, and a proposal to establish a Joint Powers Committee to coordinate activities in the watershed. The Joint Powers Committee (JPC) was established by the Cities of Carlsbad, Oceanside, and Vista in 1983, and the model erosion control ordinance was adopted by all three jurisdictions in 1984. In 1983 a \$1 million project administered by the City of Carlsbad excavated excess sediment in the extreme eastern end of the lagoon. The Conservancy completed a more detailed engineering analysis of watershed sediment control structures in September 1985. In 1987, the Conservancy approved the Buena Vista Lagoon Watershed Sediment Control Plan and authorized funding for construction of detention basins in the city of Vista. Additional funding was approved for engineering design, and biological, land use, zoning, and land ownership surveys of the Buena Vista Creek project area. As a result, three detention basins have been built in the upper watershed: Additionally, Buena Vista Creek in the city of Vista has been stabilized with an improved and/or vegetated creek channel with drop structures to reduce velocities and erosion.

While these previous activities have focused on reduction of erosion from the watershed into the lagoon, the condition of the lagoon itself still needs to be addressed; particularly, the accumulation of sediments over the past 50 years and the adverse impacts of historical modifications to the lagoon. The Southern California Wetland Recovery Project identified Buena Vista Lagoon restoration as a priority project beginning with the 2000-2001 Work Plan. Since 2000, the Conservancy has awarded grants for this purpose totaling \$640,000. Projects funded with Conservancy assistance includes the Buena Vista Lagoon Restoration Feasibility Analysis completed in 2004 (\$433,000), supplemental technical studies conducted in 2005 (\$180,000), and a regional habitat analysis completed in 2006 (\$27,000). The Buena Vista Lagoon Foundation (BVLFF) has contributed \$130,000 and the Regional Water Quality Control Board has contributed \$50,000 toward baseline data collection.

PROJECT FINANCING:

Phase II Restoration Planning: Environmental Documents and Preliminary Engineering

Coastal Conservancy

Proposed \$ 500.000

Data products phase I 640,000

Subtotal	1,140,000
Caltrans proposed (cash & in-kind)	500,000
USFWS proposed (grant)	500,000
Cities of Carlsbad and Oceanside proposed	<u>150,000</u>
Subtotal	1,150,000
TOTAL Phase II Project	\$2,290,000

Conservancy funding for the proposed authorization is expected to come from Proposition 50, the “Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002”. Proposition 50 authorizes the Conservancy’s use of these funds for the purpose of protecting coastal watersheds through projects undertaken pursuant to the Conservancy’s enabling legislation (Division 21 of the Public Resources Code) to acquire, restore or protect water and land resources (Water Code Section 79570). Funds may also be used for planning and permitting associated with projects of this type.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapter 6 of the Conservancy’s enabling legislation, Public Resource Code Sections 31251-31270. Pursuant to Section 31251, the Conservancy may undertake projects to enhance coastal resources. This project would facilitate enhancement of the biological and hydrological resources of Buena Vista Lagoon by providing information critical for regulatory compliance/permitting and implementation of a future restoration program.

Public Resources Code Section 31253 provides that the Conservancy “may provide up to the total cost of any coastal resource enhancement” based upon the project’s priority with other enhancement projects. Staff has evaluated the project in light of the total amount of funding available for coastal resource enhancement projects, the urgency of the project, and the Conservancy’s Project Selection Criteria (discussed below) and recommends that the Conservancy contribute approximately 50 percent of the total estimated phase II restoration planning costs.

CONSISTENCY WITH CONSERVANCY’S STRATEGIC PLAN GOALS & OBJECTIVES:

Consistent with **Coastal Resources Conservation Goal 5 Objective A**, the proposed project will increase coastal resource conservation by facilitating restoration of a degraded coastal lagoon that is a state ecological reserve.

Consistent with **Goal 5 Objective C**, the proposed project will facilitate removal of non-native plant species. Increasing sediment and nutrient loading as a result of urban growth in the watershed has resulted in decreasing water depth, reduced circulation, and an accelerating rate of cattail and bulrush growth.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the Public:** Letters supporting the project have been received from Senator Bill Morrow, Assemblywoman Mimi Walters, the U. S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game, the San Diego Regional Water Quality Control Board, the City of Carlsbad, and the Buena Vista Lagoon Foundation (Exhibit 4).
4. **Location:** The project is located within the coastal zone of San Diego County, in the cities of Carlsbad and Oceanside, and would benefit natural resources in the coastal zone of the city of Carlsbad.
5. **Need:** The Department requests Conservancy project management and financial assistance because its limited resources are appropriated for acquisition and restoration implementation only (See Department letter, Exhibit 4). Without Conservancy assistance, Phase II of the lagoon restoration could not go forward or attract additional funding to the project.

Additional Criteria

7. **Urgency:** Timely Conservancy authorization will enable the Department and Conservancy to better coordinate the restoration project with planned Caltrans and North County Transit District highway and rail bridge improvements and potentially leverage funds from these other agencies for project planning and implementation.
8. **Resolution of more than one issue:** The project will address coastal resource protection, habitat quality and species protection, water quality, and watershed resource protection.
13. **Realization of prior Conservancy goals:** See the "Project History" section above.
15. **Cooperation:** The proposed project involves the cooperation of state, local, regional agencies, as well as interested stakeholders and members of the general public.

CONSISTENCY WITH THE COASTAL ACT:

This project is consistent with Section 30231 of the Coastal Act which states that the "biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored. . . ." The proposed project would facilitate future projects to restore and enhance the wetland environments at Buena Vista Lagoon.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The Local Coastal Programs (LCPs) of the Cities of Oceanside and Carlsbad recognize the lagoon's status as an ecological reserve and commit to protecting its sensitive biological habitats and water quality. Both LCPs include policies which prescribe development controls to protect the Buena Vista Lagoon and its surrounding wetlands. The Oceanside LCP states "[t]he City shall work with other local, state, and federal agencies, including the recently formed Buena Vista Lagoon Joint Power Committee, to protect the sensitive biological habitats and water quality of Buena Vista Lagoon." Similarly, the Carlsbad LCP Policy 3-2 provides for "maintaining or enhancing the functional capacity of the Lagoon in a manner acceptable to the State Department of Fish and Game." The proposed project is consistent with these LCP policies as it would further efforts to restore and enhance the lagoon.

COMPLIANCE WITH CEQA:

Preparation of the environment documents will only involve data collection which will not result in a serious or major disturbance to an environmental resource. Therefore, the project is categorically exempt from the provisions of the California Environmental Quality Act, pursuant to 14 California Code of Regulations Section 15306. Staff will file a Notice of Exemption upon approval of the project.